

WHAT IS CLAIMED IS:

1. A surgical joint for connecting first and second support members, the surgical joint comprising:
 - a first clamping member comprising a clamping bore wherein the first support member is positionable within the clamping bore;
 - a second clamping member comprising a socket wherein the socket accepts a portion of the second support member;
 - a shaft disposed through the first clamping member and in communication with the second clamping member; and
 - an actuating mechanism coupled to the shaft wherein the actuating mechanism is positionable to force the first clamping member to frictionally engage the first support member and the second clamping member to frictionally engage the second support member.
2. The surgical joint of claim 1 wherein the first clamping member further comprises a plurality of portions extending into the clamping bore wherein the plurality of portions are spaced apart and wherein each of the plurality of portions includes an arcuate surface that frictionally engage the first support member.
3. The surgical joint of claim 1 wherein the first clamping member further comprises a pawl pivotally mounted to the first clamping member and wherein an end of the pawl engages the first support member to retain the first clamping member in a selected position on the first support member when the first clamping member is not frictionally engaging the first support member.
4. The surgical joint of claim 3 wherein the end of the pawl comprises:
 - a first side having a slanted surfaces; and

a second surface having substantially right angled cut out configuration wherein the second surface engages the first support member to retain the first clamping member in the selected position on the first clamping member.

5. The surgical joint of claim 1 wherein the second clamping member further comprises:

a main body comprising the socket; and
a clamping arm pivotally attached to the main body wherein the clamping arm comprises a clamping surface wherein the clamping arm is in communication with the shaft such that when the actuating mechanism is positioned to frictionally engage the first support member, the clamping arm pivots such that second support member is frictionally engaged between the clamping surface of the clamping arm and a surface defining the socket.

6. The surgical joint of claim 1 wherein the second clamping member further comprises a flexible clamping member having wing portions with clamping surfaces that define the socket and wherein as the actuating mechanism forces the second clamping member to frictionally engage the second support member, the wing portions flex such that the clamping surfaces engage the second support member.

7. The surgical joint of claim 1 wherein actuating mechanism comprises a camming member.

8. A surgical clamp for mounting on a support member having a plurality of grooves, the surgical clamp comprises:

a first clamping member comprising first and second legs defining a clamping bore; and

a pawl pivotally coupled to an external surface of the first clamping member wherein an end of the pawl cooperates with the plurality of grooves on the support member to retain the first clamping member in a selected position.

9. The surgical clamp of claim 8 wherein the first clamping member further comprises a slot intersecting the clamping bore wherein the end of the pawl is positioned within the clamping bore through the slot to engage the plurality of grooves.

10. The surgical clamp of claim 8 and further comprising an actuating mechanism coupled to the shaft wherein the actuating mechanism is positionable to force the first and second legs toward one another and frictionally engage the support member within the clamping bore.

11. The surgical clamp of claim 10 wherein the first clamping member further comprises a plurality of portions extending into the clamping bore wherein the plurality of portions are spaced apart and have arcuate surfaces extending into the clamping bore wherein when the actuating mechanism forces the first and second legs together the arcuate surfaces of the plurality of portions frictionally engage the support member.

12. The clamp of claim 10 and further comprising a second clamping member rotatably supported about the shaft and positioned proximate the first clamping member wherein the second clamping member includes a socket that accepts a second support member.

13. The clamp of claim 12 wherein the second clamping member further comprises:

a main body comprising the socket and a through bore for receiving the shaft; and

a clamping arm pivotally attached to the main body wherein the clamping arm comprises a clamping surface wherein the clamping arm is in communication with the shaft such that when the actuating mechanism is positioned to frictionally engage the first support member, the clamping arm pivots such that second support member is frictionally engaged between the clamping surface of the clamping arm and the surface defining the socket.

14. The surgical joint of claim 12 wherein the second clamping member further comprises a flexible clamping member having wing portions with clamping surfaces that define the socket and wherein as the actuating mechanism forces the second clamping member to frictionally engage the second support member, the wing portions flex such that the clamping surfaces engage the second support member.

15. The surgical clamp of claim 10 wherein the actuating mechanism comprises a camming member.

16. A clamp for accepting a substantially circular cross-sectional rod comprising:

a first clamping member comprising first and second legs defining a clamping bore; and

a plurality of raised portions attached to the first clamping member and having arcuate surfaces extending into the clamping bore wherein

the arcuate surfaces engage the substantially circular cross-sectional rod.

17. The clamp of claim 16 and further comprising:
a shaft supporting the first and second legs; and
an actuating mechanism coupled to the shaft wherein the actuating mechanism is positionable to force the first and second legs together thereby creating a frictional engagement between the substantially circular cross-sectional rod and the arcuate surfaces of the plurality of raised portions.
18. The clamp of claim 17 wherein the actuating mechanism comprises a camming member.
19. The clamp of claim 17 and further comprising a second clamping member rotatably supported about the shaft and wherein the second clamping member includes a socket for accepting a second support member.
20. The clamp of claim 19 wherein the second clamping member further comprises:
a main body comprising the socket and a through bore for receiving the shaft; and
a clamping arm pivotally attached to the main body wherein the clamping arm comprises a clamping surface wherein the clamping arm is in communication with the shaft such that when the actuating mechanism is positioned to frictionally engage the first support member, the clamping arm pivots such that second support member is frictionally engaged between the clamping

surface of the clamping arm and the surface defining the clamping slot.

21. The surgical joint of claim 19 wherein the second clamping member further comprises a flexible clamping member having wing portions with clamping surfaces that define the socket and wherein as the actuating mechanism forces the second clamping member to frictionally engage the second support member, the wing portions flex such that the clamping surfaces engage the second support member.

22. The clamp of claim 16 wherein the first clamping member further comprises a pawl pivotally connected to the first clamping member wherein an end of the pawl engages the first support member to retain the first clamping member in a selected position on the first support member when the first clamping member is not frictionally engaging the first support member.

23. A clamp for accepting a substantially circular cross-sectional rod comprising:

a first clamping member comprising first and second legs defining a clamping bore; and

a plurality of raised portions attached to the first clamping member and having arcuate surfaces having radii that are less than the radii of the clamping bore.

24. The clamp of claim 23 and further comprising:

a shaft supporting the first and second legs; and

an actuating mechanism coupled to the shaft wherein the actuating mechanism is positionable to force the first and second legs together thereby creating a frictional engagement between the

substantially circular cross-sectional rod and the arcuate surfaces of the plurality of raised portions.

25. The clamp of claim 24 wherein the actuating mechanism comprises a camming member.

26. The clamp of claim 24 and further comprising a second clamping member rotatably supported about the shaft and wherein the second clamping member includes a socket for accepting a second support member.

27. A clamp for mounting on a support member comprising:
a first clamping member comprising first and second legs defining a clamping bore; and
a stop positioned between the first and second legs wherein the stop limits movement of the first and second legs towards each other.

28. The clamp of claim 27 and further comprising a plurality of raised portions attached to the first clamping member and having arcuate surfaces having radii that are less than the radii of the clamping bore.

29. The clamp of claim 27 and further comprising:
a shaft supporting the first and second legs; and
an actuating mechanism coupled to the shaft wherein the actuating mechanism is positionable to force the first and second legs together wherein the stop prevents further movement of the first and second legs toward each other and wherein a surface defining the clamping bore frictionally engages the support member.

30. The clamp of claim 29 wherein the actuating mechanism comprises a camming member.

31. The clamp of claim 29 and further comprising a second clamping member rotatably supported about the shaft and wherein the second clamping member includes a socket for accepting a second support member.